Extracting culture or injecting nature? Rewilding in a transatlantic perspective

Hall, Marcus

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Abstract

Of the many challenges facing ecological restoration, the one most often receiving attention is the issue of selecting a goal or target state. In the project of repairing degraded natural systems, do we aim to bring back a pristine, wild state or else a more humanized, pastoral state? *Re-wilding* is the general label of the former goal, whereas *re-gardening* might be the best descriptor of the latter effort. To put this in a transatlantic context, North Americans may be much more comfortable rewilding, whereas Europeans are adept at gardening and regardening. Wilderness is traditionally an American thing, and many say that "real" wilderness simply doesn't exist in Europe, even in northern Scandinavia—and hasn't for a long time. The puzzle, however, is that today Europeans are increasingly joining Americans in rewilding. Perhaps restorationists on both sides of the Atlantic are simply *naturing*, *re-naturing* or *new naturing*, by bringing back better forms of nature, with little regard to how wild it may be. Has restoration's transatlantic divide simply dissolved?

Chapter 2
Extracting Culture or Injecting Nature? Rewilding in Transatlantic Perspective

Marcus Hall

2.1 Introduction

Of the many challenges facing ecological restoration, the one most often receiving attention is the issue of selecting a goal or target state. In the project of repairing degraded natural systems, do we aim to bring back a pristine, wild state or else a more humanized, pastoral state? *Re-wilding* is the general label of the former goal, whereas *re-gardening* might be the best descriptor of the latter effort. To put this in a transatlantic context, North Americans may be much more comfortable rewilding, whereas Europeans are adept at gardening and regardening. Wilderness is traditionally an American thing, and many say that "real" wilderness simply doesn't exist in Europe, even in northern Scandinavia—and hasn't for a long time. The puzzle, however, is that today Europeans are increasingly joining Americans in rewilding. Perhaps restorationists on both sides of the Atlantic are simply *naturing*, *re-naturing* or *new naturing*, by bringing back better forms of nature, with little regard to how wild it may be. Has restoration's transatlantic divide simply dissolved?

If *wildness*, not wilderness, is our main concern, then surely each side of the ocean has abundant quantities of it along with plenty of reasons to restore more of it. Yet there still seems to be a transatlantic divide in restoration, as Europeans are simply more willing than North Americans (and other New Worlders) to see humans as integral to ecosystems. *Dedomestication*, for example, is a rising term in Europe's restoration lexicon, though a term generally reserved for animals and sometimes plants but not landscapes. Perhaps the oceanic divide therefore arises from differing challenges of extracting domesticity instead of injecting wildness. We can begin to make sense of this divide by reviewing historic debates between

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naturalists and ecologists who have thought hard about European and American natures. This chapter aims to unravel what is meant by rewilding, and show why there may be distinct transatlantic flavors to this practice.[1]

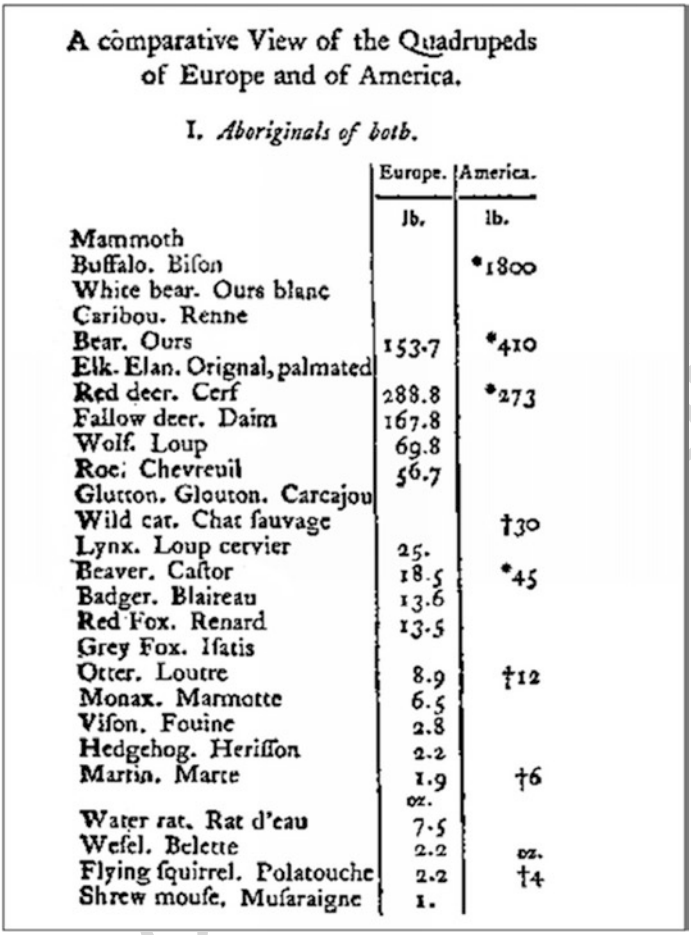
2.2 The Age of Natural History

In 1764, the great naturalist, Georges-Louis Leclerc, Comte de Buffon, declared that in the New World, "living nature is much less active and energetic, one could say much less strong" than in Europe. Buffon based his judgments on the comparison of quadrupeds across the Atlantic, concluding that America was comparatively less endowed than his old continent when it came to weight, height, girth, and cunning. Buffon was director of Paris' Natural History Museum, and he held hard evidence of Yank inferiority measured in bones and skulls. He felt the continental difference had something to do with the climate. The "heats" of America are less, he explained, and the "waters" are more spread over its surface. These physical hardships produced physiological inferiorities. *Degeneracy* was the fate of European creatures transported to North American lands. One need only look at the evidence (Comte de Buffon 1749, 86).

Rising to meet these un-American declarations was one Thomas Jefferson, then living in Paris and rumored to have passed a friendly evening with the naturalist. As Jefferson would explain it, Buffon felt that: (1) the animals common both to the old and new world are smaller in the latter; (2) that those peculiar to the new, are on a smaller scale; (3) that those which have been domesticated in both, have degenerated in America; and (4) that on the whole it exhibits fewer total species. Jefferson wrote his *Notes on the State of Virginia* in part to refute Buffon's claims, and to restore America's natural glory to its proper place. Indeed, Jefferson's response reflected America's rising pride in its natural history, a theme taken up and advanced by Thoreau, Marsh, Muir, and their like. Without a flamboyant nature, how could America compete with Europe's culture? From Jefferson's perspective, Buffon might make fun of America's pathetic libraries, its paltry museums, its petty universities, but not its purportedly puny quadrupeds! (Jefferson 1787, 72).

Jefferson made his own measurements, offering a step-by-step refutation of Buffon's claims in a detailed table (Fig. 2.1). Of course many creatures did not have a close counterpart on the other side of the Atlantic, but some of them did. According to Jefferson's calculations, his own home's bear, beaver, otter, and martin clearly outweighed their European cousins. Mammoths, moose, and elk clinched the rebuttal, felt Jefferson, and so he arranged to have bones or antlers of these creatures sent to Paris.

[1] As one piece of evidence for the rising popularity of "rewilding" and "dedomestication" in the English lexicon, one can plug these terms into Google's Ngram website: http://books.google.com/ngrams/. Doing so will graph a significant rise of both terms after the mid-1990s. The Ngram is said to search 5.2 million books published between 1500 and 2008 (see Michel 2011).



A comparative View of the Quadrupeds of Europe and of America.

I. *Aboriginals of both.*

	Europe. lb.	America. lb.
Mammoth		
Buffalo. Biſon		*1800
White bear. Ours blanc		
Caribou. Renne		
Bear. Ours	153.7	*410
Elk. Elan. Orignal, palmated		
Red deer. Cerf	288.8	*273
Fallow deer. Daim	167.8	
Wolf. Loup	69.8	
Roe. Chevreuil	56.7	
Glutton. Glouton. Carcajou		
Wild cat. Chat ſauvage		†30
Lynx. Loup cervier	25.	
Beaver. Caſtor	18.5	*45
Badger. Blaireau	13.6	
Red Fox. Renard	13.5	
Grey Fox. Iſatis		
Otter. Loutre	8.9	†12
Monax. Marmotte	6.5	
Viſon. Fouine	2.8	
Hedgehog. Heriſſon	2.2	
Martin. Marte	1.9	†6
	oz.	
Water rat. Rat d'eau	7.5	
Weſel. Belette	2.2	oz.
Flying ſquirrel. Polatouche	2.2	†4
Shrew mouſe. Muſaraigne	1.	

Fig. 2.1 A comparative View of the Quadrupeds of Europe and of America [From: Thomas Jefferson, *Notes on the State of Virginia* (London: J. Stockdale, 1787, 77)]

Faced with surmounting evidence, Buffon would eventually downplay his New World degeneracy theory, even though it would be taken up with still greater enthusiasm by others, including one Abbé Raynal, who was himself confronted one day by a different American patriot, Benjamin Franklin. Here is Jefferson's report on a dinner party that included Raynal and Franklin:

> During the dinner [Raynal] got on his favorite theory of the degeneracy of animals, and even of man, in America, and urged it with his usual eloquence. [Franklin] at length noticing the accidental stature and position of his guest, at table, "Come," sayd he, "M. l'Abbé, let us try this question by the fact before us. We are here one half Americans, and one half French, and it happens that the Americans have placed themselves on one side of the table, and our French friends are on the other. Let both parties rise, and we will see on which side

> nature had degenerated." It happened that his American guest were Carmichael, Harmer, Humphreys, and others of the finest stature and form; while those of the other side were remarkably diminutive, and the Abbé himself particularly, was a mere shrimp. He parried the appeal, however, by a complimentary admission of exceptions, among which [Franklin] himself was a conspicuous one (Jefferson 2009, 458).

In this classic transatlantic rivalry, facts would help explode myths, but the facts were themselves in significant dispute. If conservationists in Buffon's day—wildlife enthusiasts—had to choose sides based on expert opinion, they surely would have favored saving European over American flora and fauna.

2.3 The Age of Ecology

A different transatlantic rivalry dealt with the human place in the landscape. This other debate flaring in the early twentieth century involved the day's leading ecologists in the question of vegetational climax. Frederic Clements, surrounded by Nebraskan prairies, wondered why his local plant communities stopped developing at grasses, and did not continue onward into shrubs or trees the way they did in other temperate lands. Clements would eventually decide that climate and soil were the main factors behind Nebraska's grasslands; in fact he suggested that every distinct climate and soil nurtured a distinct climax vegetation. This all made very good sense, except that on the other side of the ocean, Arthur Tansley also noticed widespread grasslands—yet these were growing not in vast inland prairies but in the highlands and lowlands of the British Isles, and were often scattered with carpets of purple heather, though they could also nurture trees if they were just planted. Tansley felt strongly that an additional factor should be used for explaining climax vegetation beyond climate and soil: that factor was humanity. Planting, mowing, raking, grazing were all human activities recurring over centuries to forge the English landscape. Tansley told Clements that by omitting *Homo sapiens* in his theories, he was missing one of the biggest factors of all.

The two argued over the existence of *sub*-climaxes, *dys*-climaxes, *anti*-climaxes. Because Clements considered the whole plant community as growing organismically into its proper natural climax, he did not easily see how it could "grow" backward into an anti-climax, even if humans were a potent force. For the American, humans and their land uses had no place in ecological models (Weaver and Clements 1938, 86; 88). But Tansley disagreed. In his classic 1935 article, "The Use and Abuse of Vegetational Concepts and Terms", Tansley argued that natural climaxes are

> legitimate as a description of the ecosystems of the world before the advent of man, or rather with the activities of man deliberately ignored…. But it would be difficult, not to say impossible, to draw a natural line between the activities of the human tribes which presumably fitted into and formed parts of "biotic communities" and the destructive human activities of the modern world. Is man part of "nature" or not?… Regarded as an exceptionally powerful biotic factor which increasingly upsets the equilibrium of preexisting ecosystems and eventually destroys them, at the same time forming new ones of very different nature, human activity finds its proper place in ecology (Tansley 1935, 303).

My own hunch is that Clements was examining North America's relatively untouched (or lightly touched) ecosystems—or at least he assumed them to be as such. Clements carried out his work on what he saw to be pristine places, so that his ecological theories deliberately excluded human action. This was not the case with Tansley, who could not help but see centuries of human use in the English countryside. Any ecological experiment or model that Tansley devised necessarily included humanity in its cast of characters.

There was also the *judgment* of human effects. Clements readily observed farmers breaking the plains with their plows to give the overwhelmingly negative result of the Dust Bowl. Tansley, though, talked of "anthropogenic" climaxes, whereby agricultural processes could produce normal, even beneficial landscapes. Clements considered human activities to be outside of natural process so as to disrupt them; Tansley countered that human activities could be integral, even helpful, to nature's processes. It seems that much of this transatlantic difference can be explained by the environments—mental and natural—that each ecologist worked in. Pristine systems were crucial to the American who was surrounded by seemingly pristine systems; this was not the case for the European (Hall 2005, 168–171).

This second rivalry therefore looked beyond facts to consider the role of humans in ecosystems. Both scientists went to the field, and both made accurate measurements. There was no dispute over whose creatures or whose ecosystems were bigger and better. Rather, there was a fundamental opinion difference over how *Homo sapiens* affected the environment. Certainly human activities in both locations were not going away anytime soon, and so Tansley's position represented the path of least resistance. Those such as new-age environmentalist Stewart Brand (1968–1985) would take up Tansley's cause when he published the *Whole Earth Catalogue*, writing in its first sentence that "We are as gods and might as well get good at it." I'm not sure ecologists can be objective even when they have the facts in hand.[2]

For our purposes, the Clements-Tansley debate shows that the world might be divided into wilders and gardeners. Wilders set out to erase or extract human processes—or if absolutely necessary, to place humans in the back room where they adjust dials and spin wheels so that more immediate wild processes can flourish. Wilders aim, like Aldo Leopold, to think like a mountain so that the mountain can continue along its normal, wild path … or some might say, they use "close-to-nature" methods. If deer herds have to be culled because they threaten to overgraze a mountain's slopes, so be it. If deer predators need to be reintroduced to cull those herds, reintroduce them. The wilder's goal is to keep human activities from view, keep humans behind the curtain so that the real show can go on.

Gardeners are much more willing to open the curtain. "We are as gods", say the gardeners. They value this or that biodiversity, this or that landscape aesthetic, and they set out to maintain or even re-create it. Before reconstructing the Ravensbourne River near London, local residents were surveyed to see what sort of river they would most prefer. By majority opinion, survey results instructed river managers

[2] Brand is, incidentally, of U.S. origins, suggesting that not all Americans are environmental misanthropes.

how many meanders to insert, how many sand bars to construct, how steep to grade the banks. Nature by design, yes, but a self-perpetuating nature that obeys normal processes. For gardeners, kids splashing at the river bank by summer is a normal biological agency (Tapsell 1995).

2.4 Preserving and Creating the Wild

Before exploring a third transatlantic debate with an eye toward understanding the nature of rewilding, it is worth visiting the Juraparc, which is a modest game park tucked away in the foothills of the Jura mountains that run along the Swiss/French border. If you are unable to pay the admission and bodily visit what amounts to a small private zoo in the backyard of rolling farmstead, the next best option is to click on its webpage.[3] Visiting this webpage will bring up images—along with husky sounds and calls—of the various hairy, horned, clawed, and toothed animals being raised at this estate. Listening to this webpage's aural appeal to stop by and visit sometime may raise primeval tingles on the back of the neck, but it also raises questions about what all these bears & wolves & bison are doing in this obscure corner of civilized Europe. The Jura Mountains, after all, might be a more appropriate setting for *pterodactyls* and *trianosaurs* of the Jurassic Park variety, as recreated by Stephen Spielberg. According to the webpage (which also showcases an attractive restaurant serving buffalo steaks), the bears were imported from Croatia, the wolves arrived from eastern Europe, and the bison hail from North America. It seems that Compte de Buffon would be mortified! Perhaps Arthur Tansley would be proud.

It turns out that elements of such wildness riddle western Europe. Although some of this wildness mimics Africa's savannahs—as at *Planete Sauvage*, France's mini safari park near Nantes—most of it reproduces Americana, especially western Americana. Consider the more famous example of Euro Disneyland situated just outside Paris. In his 2003 book, *Nature by Design*, Eric Higgs uses the Wilderness Lodge of Florida's DisneyWorld to show just how far wild nature, or renditions of it, might be created by Disney designers, called imagineers. Now this story is magnified, it seems, and then turned inside out when that wildness is imagineered into the countryside of Marne-la-Vallée, France. Apparently Euro Disneyland was, until the mid-1990s, an economic failure because it imported too much American-*ness* at the wrong time, and not many Europeans could stomach this amusement park, at least initially. Someone pointed out that Euro Disneyland's imagineers had to struggle especially hard with their vision of the Sleeping Beauty Castle, for example, in a place where real medieval castles lay just down the road. Nonetheless, this and other key icons of the American imagination were built successfully, including Wilderness Island, which was craftily hidden within Frontierland (Figs. 2.2 and 2.3). A few years later, when Euro Disneyland was rechristened as *Parc Disneyland*, we see that

[3] Fabien Honsberger, "Juraparc Homepage," Juraparc SA, http://www.juraparc.ch/. Accessed 7 September 2011.

Fig. 2.2 Sleeping Beauty Castle, Disneyland Paris (From http://www.publicdomainpictures.net/)

Fig. 2.3 Frozen river on Wilderness Island, Disneyland Paris (From http://www.magicforum.eu/)

"Euro" had been safely extracted from the title, implying that "Europe" and "Disneyland" could not easily be merged. No matter. In the case of the island and elsewhere on the grounds, lots of California trees were brought in, including dozens of giant sequoias. Never mind that these are alien species in Europe, some of them borderline invasive. Perhaps *Parc Disneyland*, now the most visited and "most magical park in Europe", has been carrying out a rewilding project all along that Europe's avant-garde environmentalists should be celebrating.[4]

But is all of this EuroWilderness a surprise? After all Europeans invented the stuff, and have always been the ones most fascinated by it. By definition, it's everything they were not.

According to an insightful study, medievalist Joep Leerssen points out that Europeans have long harbored wilderness, or at least wild elements, often projecting them to the peripheries of their continent: to the eastward fringes, to the dark forests, to the mountain tops, and especially to its western shores, away from civilized cores. Europeans in the fifteenth and sixteenth centuries were convinced that wild people also thrived in these peripheries, and the Irish in particular (as least as viewed by the English), personified these wild people. It was well known that Irish men and women—uncouth and poorly nourished—often carried small tails under their cloaks and britches, demonstrating their half-animal, half-human selves, with wildness manifested in body as well as in place (Fig. 2.4). Once Columbus sailed west and came upon the New World, says Leerssen, then Europe's wildness was telescoped to the Americas. Indigenous Americans and their continent became the main realm of wild people and places. By the sixteenth century, all of Europe had retracted to a civilized core, and the Americas became its wild periphery. Wilderness across the ocean depended on civilization at home. Wilderness didn't get invented by the Americans, and they hardly loved it, and never tamed it. It was always Europeans who were its most avid supporters. Witness the number of Germans who today flock to Monument Valley, the Redwoods, or Alaska. The demand is so large that in summer Lufthansa's subsidiary, Condor Air, offers twice-weekly nonstop flights from Frankfurt to Anchorage (Leerssen 1995).

Europe's *other* therefore found its flourishing in America—and a few other extra-Europes. Americans in the meantime were becoming very sensitive to Europe's rising infatuation with wilderness, and it didn't take them too long to become fiercely proud of this European heritage bestowed upon them. Wilderness became patriotic; it became cool; and ever since, devoted Europeans have been reimporting this wilderness from North America. Witness the giant sequoia trees

[4] Safari park "Planete Sauvage Homepage," http://www.planetesauvage.com/ (accessed November 6, 2011). About Eurodisney and its early failure, see Patrick Zimmer, "Why Eurodisney failed," http://patrickzimmer.com/why_eurodisney_failed.htm (accessed November 6, 2011); Chris and Mahendra Madhavan "Euro Disney or Euro Disaster," Winslett's, March 17 2009, http://www.winsletts.com/2009/03/euro-disney-or-euro-disaster.html (accessed November 6, 2011). Concerning the composition of the trees on the grounds of Parc Disneyland, see: "Disney's sequoia Lodge—Disneyland Paris," Senses holidays, http://www.sensesholidays.co.uk/holiday/disneys-sequoia-lodge-disneyland-paris/104/ (accessed January 13, 2012).

Fig. 2.4 John Speed, *The Kingdom of Ireland*, map and illustrations engraved by Jodocus Hondius (1563–1612) (From the 'Theatre of the Empire of Great Britain', pub. By John Sudbury and George Humble, 1610)

fashionably imported to Europe as early as the 1870–1880s, and planted alongside mansions and churches, as in Switzerland or wherever the European climate approximated that of northern California (Fig. 2.5). Witness the fame of the Buffalo Bill show, wildly popular when it toured in quintessentially civilized places such as Munich and Bologna. Witness today's bison and wolves imported to theme parks across Europe, and the prices that can be charged to appease eager young wilderness explorers and their parents. Witness growing British efforts at rewilding.[5]

One can also recount how Roderick Nash (1978), the American wilderness historian, was disappointed with European nature. A transcript of one of his speeches tells of how one of his U.S. friends, several months after being transferred

[5] For locations of record Giant Sequoia in Europe, see for example, "Die dicksten, höchsten und ältesten Riesenmammutbäume (*Sequoiadendron giganteum*)," MonumentalTrees.com, http://www.monumentaltrees.com/de/baeume/riesenmammutbaum/rekorde/ (accessed May 20, 2011); and Rydell and Kroes (2005).

Fig. 2.5 Giant Sequoia planted alongside a church in Erlenbach, Switzerland (Photo by author)

to Geneva, set out to take a wilderness holiday in the Alps. But following a concerted search by map and car, this transplanted American couldn't find any place wild enough to merit a backpack trip. Frustrated, the friend gave up the search and went back to the city, returning his tent and pack to the closet. With a different wilderness in mind, it's little wonder that Nash's friend and his like-minded European land managers would applaud efforts to rectify Europe's wild shortcomings.

And so I wonder again, what sorts of advice should these land managers be listening to? Should Europeans push harder for rewilding their woods, wetlands, and mountains—or should they be dedomesticating them? Should they be injecting wildness into places and their creatures, or should they be extracting the human touch from land and life, erasing the anthropogenic wherever possible? My best and most simplified answer is that if Americans work to *restore ahistoric* systems (as by rewilding), Europeans can aim to *re-create historic* systems (also by rewilding). Such questions suggest right and wrong answers.

2.5 The Age of Rewilding

It is worth exploring the rewilding issue through a third transatlantic dichotomy, which depends not on factual disputes about the natural world or on judgment of humanity's imprint as beneficial or detrimental. My third pairing pits Josh Donlan against Frans Vera by focusing on their restoration proposals of introducing species that are analogous to those now extinct.

Donlan is an American conservation biologist spearheading a movement to bring to North America's open spaces a host of big game species similar (or analogous) to ones that once thrived during the Pleistocene period of 13,000 years ago when *Homo sapiens* were still migrating across the Bering Land Bridge to establish themselves on a new continent. Donlan's reasoning goes that during this prehistoric time, these first Americans hunted much of North America's Pleistocene mega-fauna into oblivion, even though, for example, the pronghorn antelope had already developed its spectacular 10-m leaps in order to outrun the American cheetah and other mega-predators newly extinct. Thus, if wildlife managers could now only borrow a few modern-day cheetahs, some lions, and a handful of other analogues (or surrogates) of extinct Pleistocene species, then propagate them in large reserves, say in New Mexico, these creatures would serve to reproduce many of the key prehistoric ecological forces for keeping evolution moving forward in American ecosystems. No matter that Africans feel repulsed by this latest act of American imperialism, in part because ecotourists would no longer need to travel to Africa to see the world's largest cats in action. No matter that these African cats would be non-native (even invasive?) species in American habitat, so that they might kindle all sorts of unknown and undesirable side effects to these ecosystems; though, such side effects might be avoided or mitigated with proper study and preparation. No matter that Donlan has received death threats for his rewilding proposal from a few gun-toting Americans who are scared silly that implementing his ideas could mean that lions would be wandering through their back yards (Donlan et al. 2005; Donlan and Green 2010).

Meanwhile across the Atlantic, Dutch ecologist Frans Vera likewise recommends propagating analogue species in open areas in his own country, and indeed this is already happening in the form of Heck cattle and Konik ponies, hearty breeds imported from Germany and Poland and released in select Dutch natural areas (Fig. 2.6). Intensive grazing and trampling of these animals is expected to reproduce herbivorous activities of prehistoric ungulates that once roamed Europe. Such grazing pressures seem to be creating wetlands and woodlands with open glens and briar-lined meadows that simulate vegetation patchworks like those Vera believes once permeated central European ecosystems (Vera 2009).

There seems to be a stunning similarity in the American and Dutch plans, except that one proposal is usually dismissed as junk science while the other finds support even from the Dutch railway service who agreed to relocate their tracks

Fig. 2.6 (**a**) Heck Cattle and (**b**) Konik Ponies (Photos by Cristophe Cagé, Creative Commons Attribution-ShareAlike 2.5 Generic and Gwendolen/photo on flickr)

around a key implementation area, the Oostvaardersplassen. Perhaps the main difference in the popularity of these two rewilding proposals centers on timeline. Donlan and colleagues see an ideal natural system to be ones that pre-date human settlement, in his case those that existed approximately 13,000 years ago. Or, in the case of the Oostvaardersplassen, Vera's target ecosystem seems to be one that existed three or four thousand years ago when human impacts to European natural systems were relatively low. One may wonder why still earlier ecosystem snapshots were not chosen for either of these projects. Each rewilder's idealized snapshot occurs strategically on the eve of intensive human inhabitation, as though an earlier or later snapshot would be substandard. One may also question how analogous are these various species analogues: indeed, Heck cattle may occupy rather distant niches than those occupied by the ancient auroch that the cattle are meant to mimic. African lions potentially propagated in New Mexico may ultimately exhibit rather different predatory behaviors than those exhibited by their extinct American counterparts.

This third transatlantic contrast therefore stems from the acceptability of particular slices of history, or else from the feasibility of introducing analogue species. The American suggestion that only deep pre-human pasts represent true wilderness contrasts with the European assumption that conditions of a few thousand years ago are sufficiently wild. Donlan, moreover, insists that only big, fierce predators can reproduce wholly wild conditions and processes, while Vera compromises that large herbivores alone can go a long ways in rekindling such processes—while avoiding risks to passersby of rebuilding natural systems that are somewhat too red in tooth and claw. Of the two rewilding proposals, American wilderness with its absence of human imprint, is still being envisaged more purely if not more unrealistically than its European counterpart. Stated differently, Americans seem less likely to accept a tarnished variety of their revered wilderness, while Europeans are more willing to promote approximations of it that position humans as *Homo faber*, the user of tools for remaking and refashioning their surroundings.

2.6 Transatlantic Divides?

What can these transatlantic perspectives tell us about how much of the wild can be included in our restoration goals? The messages are several, but I can think of the following: the Jefferson-Buffon squabble implores us to think again about environmental semantics: what makes a forest a forest, or what is a true wilderness? We must consider harder just how indicative are our environmental indicators: does the data indicate what we say it does? These are questions of facts and their interpretations. There will always be values involved in doing conservation that even scientists cannot get around.

The Clements-Tansley rivalry illustrates that we should be aware of how far people see themselves as part of the natural world. Choosing to side with humans in the landscape may be easier but, in many cases, more detrimental to biodiversity. As gardeners, we may want to create Pleistocene parks, Holocene parks, or even Jurassic parks, if we can just capture appropriate pieces of DNA in amber. We might classify all of these parks as "wild"—and set out to rewild them when necessary, if we can identify an optimal past, by voting or by measuring (which is often like voting). We can stay hidden behind the curtain in trying to make these systems work normally. Or else we can expose our designs, and may as well get good at designing them. It seems that both Clements and Tansley are being enlisted in restoring their respective continent's wild areas.

The Donlan-Vera divide shows that we should think hard about history. There is generally more sensitivity to the past in Europe than in America, and that has certainly worked to Vera's favor. Americans have been trying to run from history ever since they moved to their distant continent: Henry David Thoreau (1862) once proclaimed that, "He is blessed over all mortals who loses no moment … remembering the past." But America's history-shallowness shines as an opportunity for all to examine assumptions about idealized pasts and perfect natures. Landscapes change because climates change, because human impacts change, and because our ideas of managing landscapes change. The historical assumptions that we hold in our heads tell us what systems we want to restore—or preserve; and even the act of *preserving* continually evolving natural states requires us to continually restore them.[6]

Despite the difficulties of identifying restoration's target state, one can certainly recognize a rising enthusiasm on both sides of the Atlantic for making that target a *wild* state. In the last 10 years, Dave Foreman's call to rewild North America has been mirrored in Great Britain by efforts to rewild the Scottish highlands, for example. It appears that as wilderness disappears faster, there are louder calls to bring it back. But returning to our main inquiry, is their activity an effort to push nature in or pull culture out? Our main insight so far is that North Americans who see themselves surrounded by more pure wilderness aim to remove culture; whereas Europeans long surrounded by humanized systems

[6] On preservation as restoration, see Hall (2005, 238–239).

attempt to reintroduce nature. But we are beginning to realize that differences in rewilding east and west of the Atlantic are due to even more subtle reasons (Foreman 2004; see also Kirby 2009).

2.7 Rewilding Animals

Another way to shed light on this enigmatic practice of rewilding—the process of using the human touch to erase the human touch—is to consider how this activity is carried out in the animal world. For tigers or bears or elephants who have lived their lives in zoo cages, rewilding begins once these creatures are released from their cages and brought out to unfenced land. For propagators of endangered animals living in captivity, this process is often referred to as "dedomestication"—quite literally, *un*taming so that human-dependent animals may begin to survive and multiply on their own. But most dedomestication efforts are woefully slow and ineffective so that once fenced animals have tasted domestic life, returning them to an unbound world often spells their doom. Outside of their enclosures, they no longer run as fast as their uncaptured cousins; they no longer hunt as stealthily; they no longer compete effectively in attracting mates. Efforts to untame semi-domestic animals, like efforts to untame semi-domestic landscapes, show how durable are human changes to natural systems. Although some taming may be reversed, human contact has lasting effects on wild organisms (Gamborg et al. 2010).

A case in point is the project of saving China's rare tigers, whereby zoo animals are brought to the forest so that they learn to hunt and fend for themselves. Of China's 90 remaining tigers, 60 of them live in captivity. Importantly, animal propagators have found that second generation tigers are the best candidates for dedomestication, as parent cats accustomed to zoo life lose their ability to hunt, lose their fear of humans, and almost always starve if brought back to the wild. Only their kittens, quickly removed after birth from the human world of free handouts and muted competition, can learn their ancestral habits of capture, fight, and flight. The "Save China's Tigers" organization explains that there is a period of human tutoring, whereby the young tigers are taken out by a trainer, encouraged to chase fleeing game, and then associate game with a meal and a full stomach. Because of the lack of space in China, select animals do their training in South Africa's game preserves, first spending time in a smaller 40-hectare pen before moving to the 100-hectare Hunter's Palace. Once dedomesticating tigers have learned to survive well on their own, they will hopefully pass their skills on to their offspring, with hard-wired behaviors of instinct reinforcing learned behavior, and evolutionary pressures selecting more fit genes in subsequent generations. Dedomestication is deemed sufficient when the big cats are reacting to wild stimuli and contributing their own predatory roles.[7]

[7] "Save China's Tigers Homepage," Save China's Tigers UK Charity, http://english.savechinas-tigers.org/ (accessed January 10, 2012); Tilson and Nyhus (2010).

But such conservation successes are often disrupted by setbacks, as in September of 2011 when Tiger 327, a precious young dedomesticating male broke through a gate to challenge a nearby advanced classmate who proceeded to teach him a fatal lesson. Although landscape restorers do not experience the heartbreaking failures of tiger restorers, both can appreciate the dilemma of restoring fully untamed conditions. There is greater room for error when rewilding landscapes than when dedomesticating animals, although the products of both activities will certainly exhibit a continuum between wildness and domesticity.[8]

Dogs may likewise be dedomesticating if they chew their leash, run to the edge of town, join packs, and become feral. But is it ever possible for dogs to run loose for several generations, and eventually morph into wolves? It seems that the process of becoming feral (in dogs, goats, horses) is dedomestication, but dogs can never become wolves through rewilding: evolution is a forward moving process. Despite Jack London's tale of the Wild's siren call, dogs cannot shed their domestic genes, and cannot return to their former evolutionary state of wolves from whence they came. Even the Heck cattle that now graze Holland's Oostvaardersplassen are not semi-tame ancestors of auroch, but a 1920s and 1930s breeding product of the Heck Brothers, two German zoo keepers who laboriously crossed various rare and hardy cattle lines, including some from as far away as Corsica—but none that comprised a surviving auroch, the massive ungulate with long horns that disappeared in the seventeenth century to be admired by later cattle enthusiasts. In the eyes of their creators, Heck cattle were meant to simulate ancient auroch, but DNA sequences would reveal that this new breed may manifest greater human engineering than the landscape it is supposed to rewild. Unlike dedomestication, rewilding is a forward moving process, so that endangered tiger propagation, dog feralization, and ancient breed recreation require large amounts of time to evolve into significantly new varieties. In efforts to bring back nature's designs, rewilding implies marching to the future; dedomesticating would mean marching back to that future (De Bruxelles 2009).[9]

Rewilding also implies greater reliance on spontaneous, nonhuman processes. Whereas the project of dedomestication usually involves human mediation, in order train, teach, and untame, the project of rewilding can proceed even when people are absent. A degraded forest can begin to rewild itself, but it can hardly dedomesticate on its own. The latter process of removing human designs from an ecosystem is much more active and hands-on. Rewilding is semantically more flexible in suggesting a role for humans as well as nature in the project of earth repair.

[8] Ed Stoddard, "Tiger-on-tiger fatalities increasing," IOL Scitech, September 29, 2011, http://www.iol.co.za/scitech/science/environment/tiger-on-tiger-fatalies-increasing-1.1147113 (accessed January 10, 2012); Jozef Keulartz, "Ethics of Wildlife Conservation," Academia.edu, http://www.academia.edu/jozefkeulartz/Papers/319974/Ethics_of_wildlife_conservation (accessed January 10, 2012). Invited lecture at the Symposium Managing Populations of Free-ranging Herbivores, Utrecht, 26th October 2010.

[9] See also the similar breeding story of Konik ponies, "Rare horse breed proves crucial to delicate ecosystem," Horsetalk.co.nz, http://www.horsetalk.co.nz/horsesinhistory/konik.shtml (accessed February 10, 2012).

Rewilding encompasses the human hand that pulls out alien weeds along with nature's hand that rekindles a tiger's instinct to hunt prey. No wonder that most restorers favor *rewilding*, not *dedomesticting*, as the label of their pursuit. Rewilding, of species or of landscapes, is the preferred term on both sides of the Atlantic. Still, the dual role that rewilding enjoys—as an activity that is hands-off as well as hands-on, passive as well as active—may provide a clue to understanding its different Atlantic interpretations. We may speculate that one continent favors passive rewilding while the other favors active rewilding. But in fairness, it would be difficult to decide which continent prefers a stronger rewilding hand. Do Donlan's predators represent a more active rewilding role than Vera's herbivores?

Another crucial point is to remember that to his Dutch public, Frans Vera does not label his projects as rewilding or dedomesticating, but *natuurontwikkelings*—a Dutch term that is best translated at "Nature Development". Although the Dutch (of all continental Europeans) are probably the most willing to use English in their day-to-day communication, *nature development*—or perhaps *new naturing*—is the best English description of what they do in their fens. Vera is best seen not as rewilding, not even restoring, but as nature-developing. All the transatlantic posturing about wilderness, and about whether Old or New Worlds harbor more pure forms of it, largely drops through the cracks when we begin to consider translations of it in other languages. English *wilderness* can be the place where wild peoples dwell, or where other-than-human processes reign, but the Dutch notion of *ontwikkelings* positions spontaneous, unmanaged change as the main goal of restoration projects. It is unbridled nature-free-from-culture that is favored at the Oostvaardersplassen. Nature is being released from the bounds of human control to do what it will do, aided by analogue grazers and protected from well-meaning land managers.

Similarly in restoration projects in Sweden or Estonia or Greece, *wilderness* cannot ultimately be a target state for the simple reason that it does not and cannot exist in these places: an English speaker's wilderness concept is superseded in these countries by local linguistic approximations of, respectively, *vildmark* (literally: wild land), *metsik loodus* (lit: forest-like nature), and *άγριος φύση* (lit: wild nature). And even these terms reflect conceptual translations of how local native speakers would describe English wilderness in their own land, not what in their view is essentially important to a wild place—be it spontaneous, untrammeled, isolated, sublime, terrifying, spectacular—or various combinations of these descriptors, or, something else completely. When bringing back wilderness, or creating it anew, a restorer must set out with a good epistemological map of this entity, even though it will vary according to language. One must therefore conclude that outside the English speaking world, "rewilding" may be getting lost in translation.[10]

[10] *Wilderness* equivalent translations for Swedish, Estonian, and Greek were supplied to the author by Lars Elenius, Kadri Tüür, and Iosif Botetzagias as part of the "The Hitchhiker's Guide to the Wilderness" project convened by Marcus Hall for the "Environment & Society Portal" of the Rachel Carson Center: http://www.environmentandsociety.org/exhibitions

In the end, the only fair way to compare continental practices of "rewilding"—to keep our attention on this one term—is to limit our examples to English speaking lands: places predominantly inhabited by English speaking peoples and their descendants across the oceans. Limiting our rewilding comparison, then, to New Mexico's deserts and Britain's Highlands or Lake District helps skirt the linguistic complication. One might thus compare the plans of using America's analogue Pleistocene predators with those of using Britain's increasingly widespread "naturalistic grazers". The latter rewilding practice depends on everyday domestic livestock to check unfettered vegetative growth, by moderately browsing hedges and munching grasslands to open up habitat for other flora and fauna. To posit ordinary cows and sheep as allies in the rewilding process is foreign indeed to most American rewilders, but therein may lie the central transatlantic difference.

Today in the lush valleys of Ennerdale situated within England's famed Lake District are roaming herds of Galloway cattle. Managers of this natural area declare that the introduction of these slow-moving, black beasts is serving to make the surroundings more "self-willed": These "cattle can have a positive impact on bracken and low scrub, breaking up mats of dead litter and creating pathways through tall, dense vegetation. The cattle can also create more ground disturbance and benefit tree seedlings by 'burying' them into the ground." Domesticity is therefore promoting wildness at this place, so that here the rewilders are people's animals rather than people themselves. The "Wild Ennerdale" plan cites the preservation of a "sense of wildness" as a key aim. In particular, the plan goes at great length to distinguish wildness from wilderness: "Wilderness is a noun which acts like an adjective …. Wildness is everywhere in Britain, if only we will stop in our tracks and look." Here then is our best answer to the puzzle of transatlantic rewilding. America's Pleistocene rewilders still have mythic wilderness in mind, one that they learned from European settlers who brought it with them across the ocean; but Britain's rewilders keep the wild adjective in their mind. In the Lake District and in the Highlands, restorers seek to bring back the essence of the wild: wildness not wilderness. Restorers in both continents are rewilding, but the Europeans pursue the adjective while the Americans chase the noun (Hodder and Bullock 2009, 41).[11]

Dealing with such a plethora of terms can be annoying. In summarizing his thoughts about naturalistic grazing, Keith Kirby, a leading voice in British conservation circles, pleas that he "would prefer to see trials of 'wilder', albeit controlled, grazing schemes started, rather than spend time in debating whether we are rewilding, wilding, doing limited intervention or just undertaking extensive farming" (Kirby 2009, 62). Certainly both wildness and wilderness exist ultimately in our minds, for we must perceive both before we can begin to restore either (Fig. 2.7).

[11] See also "Cattle," Wild Ennerdale, http://www.wildennerdale.co.uk/cattlemanagement.html (accessed January 15, 2012); "Concept of "Wild"" in *Wild Ennerdale Stewardship Plan Text 2006*, Wild Ennerdale, March 13, 2006, http://www.wildennerdale.co.uk/stplan/Stewardship%20Plan%20Text.pdf (accessed January 15, 2012).

Fig. 2.7 "Tod's Vegetable Oil Van, North Carolina," Rewilding Exhibit (From Lucas Foglia Photography, 2012)

There is nonetheless a fundamental difference between restoring a quality and restoring a place. In our world of ongoing climatic and ecosystemic changes, rewilders will need to continue identifying wild references that are both adjectives and nouns. Rewilders still need to identify wildness as well as wilderness in order to clarify their goals. Wildness describes wilderness, and wilderness harbors wildness.

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